

A CAPACITIVE SENSOR AND METHOD FOR NON-CONTACTING GAP AND  
DIELECTRIC MEDIUM MEASUREMENT ABSTRACT OF THE  
DISCLOSURE

A method for non-contact measurement of a displacement between a surface and a capacitive sensor comprised of at least two superimposed conductive plates electrically insulated one from the other and a sensor circuit coupled to the plates including: positioning the capacitive sensor proximate to the surface such that the displacement is a distance of a gap between the surface and one of the plates; applying a high frequency signal to the plates; applying the high frequency signal and a sensor plate to control a voltage gain of an amplifier in the circuit, where the capacitance on the sensor is indicative of the displacement between the sensor and surface; differentiating an output of the amplifier and the high frequency signal, and determining a value of the displacement based on the difference between the output of the amplifier and the high frequency signal.